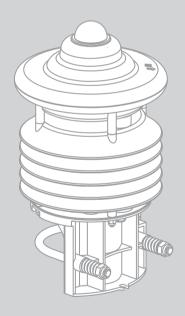


Measuring Device for Recording Meteorological Data at the PV Plant

### **SMA METEO STATION**

Installation Manual



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SMA America, LLC 3801 N. Havana Street Denver, CO 80239 U.S.A.

SMA Solar Technology Canada Inc. 2425 Matheson Blvd. E 8th Floor Mississauga, ON L4W 5K5 Canada

#### IMPORTANT SAFETY INSTRUCTIONS

#### **SAVE THESE INSTRUCTIONS**

This manual contains important instructions for the following products:

- SMA Meteo Station
- Module temperature sensor
- Power supply unit

This manual must be followed during installation and maintenance.

The product is designed and tested according to international safety requirements, but as with all electrical and electronic equipment, certain precautions must be observed when installing and/or operating the product. To reduce the risk of personal injury and to ensure the safe installation and operation of the product, you must carefully read and follow all instructions, cautions and warnings in this document.

#### Warnings in this document

A warning describes a hazard to equipment or personnel. It calls attention to a procedure or practice, which, if not correctly performed or adhered to, could result in damage to or destruction of part or all of the SMA equipment and/or other equipment connected to the SMA equipment or personal injury.

Symbol	Description
<b>▲</b> DANGER	DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.
<b>▲</b> WARNING	WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.
<b>▲</b> CAUTION	CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE	NOTICE is used to address practices not related to personal injury.

### **General Warnings**

### **A** WARNING

#### General Warnings

All electrical installations must be done in accordance with the local safety codes and the National Electrical Code® ANSI/NFPA 70 or the Canadian Electrical Code® CSA C22.1. This document does not and is not intended to replace any local, state, provincial, federal or national laws, regulation or codes applicable to the installation and use of the product, including without limitation applicable electrical safety codes. All installations must conform with the laws, regulations, codes and standards applicable in the jurisdiction of installation. SMA assumes no responsibility for the compliance or non-compliance with such laws or codes in connection with the installation of the product.

For all repair and maintenance, always return the unit to an authorized SMA Service Center. Before installing or using the product, read all of the instructions, cautions, and warnings in this document.

Wiring of the product must be made by qualified personnel only.

Table of Contents SMA America, LLC

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1 Information on this Document SMA America, LLC

### 1 Information on this Document

### Validity

This manual is valid for the SMA Meteo Station from firmware version 2.80.01.

### **Target Group**

This document is intended for skilled persons. Only skilled persons are allowed to perform the tasks set forth in this document (see Section 2.2 "Qualification of Skilled Persons", page 11).

### **Symbols**

Symbol	Explanation	
<b>▲</b> DANGER	Indicates a hazardous situation which, if not avoided, will result in death or serious injury	
<b>▲</b> WARNING	Indicates a hazardous situation which, if not avoided, can result in death or serious injury	
<b>▲</b> CAUTION	Indicates a hazardous situation which, if not avoided, can result in minor or moderate injury	
NOTICE	Indicates a situation which, if not avoided, could result in property damage	
i	Information that is important for a specific topic or goal, but is not safety-relevant	
	Indicates a requirement for meeting a specific goal	
<b>☑</b>	Desired result	
×	A problem that could occur	

### **Typographies**

Typography	Use	Example
"light"	Display messages on the inverter	The value can be read in the "Energy" field.
	Elements in a software user interface	
	<ul> <li>Connections</li> </ul>	
bold	Elements to be selected	Enter 10 in the "Minutes" field.
>	Several elements that are to be selected	Select Settings > Date.
[Button/Key]	Button or key to be selected or pressed	Select [Next].

### Nomenclature

Complete designation	Designation in this document	
SMA America Production, LLC and SMA Solar Technology Canada Inc.	SMA	
SMA Meteo Station	Meteo Station	

### **Abbreviations**

<b>Abbreviations</b>	Designation Explanation	
AF	Width Across Flats The distance between two parallel surfaces ("flats") of a screw head.	
MEMS	Micro-Electro-Mechanical System	-
MSL	Mean Sea Level	-
NTC	Negative Temperature Coefficient Thermistors	Electric resistor with a negative temperature coefficient
PV	Photovoltaics	-

2 Safety SMA America, LLC

### 2 Safety

### 2.1 Intended Use

#### **SMA Meteo Station**

The Meteo Station is a device for measuring power-related meteorological data at the PV plant location and for transmitting this data to the Sunny WebBox via RS485 communication bus. The Meteo Station fulfills the following tasks:

Measurement of global radiation, PV cell temperature, absolute air pressure, air temperature and humidity, and transmission of this data to the Sunny WebBox.

Any other use can result in personal injury or property damage. The SMA Meteo Station's degree of protection is NEMA 3 and is suitable for outdoor and indoor use within a temperature range of  $-40^{\circ}\text{F}$  to  $+140^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$ ).

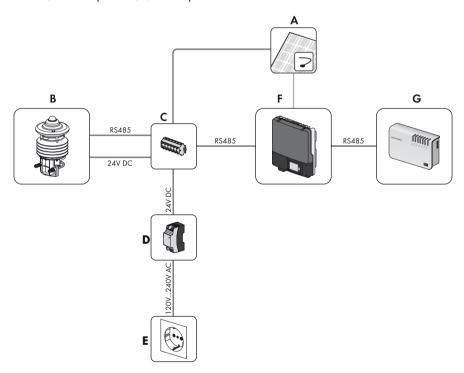


Figure 1: Example: Diagram of a PV plant with Meteo Station and Sunny WebBox

Position	Description
Α	PV module with module temperature sensor

SMA America, LLC 2 Safety

Position	Description
В	Meteo Station
С	Connecting terminal plate
D	Power supply unit
Е	Grid connection
F	RS485 bus node (e.g., PV inverter)
G	Sunny WebBox

The Meteo Station is approved exclusively for use with the supplied module temperature sensor, the supplied power supply unit and any other RS485-compatible SMA devices.

For safety reasons, it is forbidden to modify the product or install components that are not explicitly recommended or distributed by SMA.

The enclosed documentation is an integral part of this product.

- Read and adhere to the documentation.
- Keep the documentation in a convenient place for future reference.

### 2.2 Qualification of Skilled Persons

The tasks described in this document must be performed by skilled persons only. Skilled persons must have the following qualifications:

- · Training in the installation and commissioning of electrical devices
- Knowledge of all applicable standards and guidelines

2 Safety SMA America, LLC

### 2.3 Safety Instructions

### **A** WARNING

#### Danger to life due to electric shock

Lethal voltages are present in the conductive parts inside the power supply unit.

• Never open the power supply unit.

The power supply unit is not splash-proof.

If moisture penetrates the power supply unit, you may suffer an electric shock upon contact.

Only use the power supply unit in a dry, indoor environment.

#### **A** CAUTION

#### Risk of injury due to stumbling

Incorrectly laid cables may cause injuries due to tripping hazard.

• Lay the cables in such way that no one can step on or trip over them.

#### NOTICE

#### Damage to the SMA Meteo Station by lightning strike

The Meteo Station is not equipped with lightning protection. A lightning strike could damage or destroy the Meteo Station.

The Meteo Station must be integrated in the existing lightning protection equipment.

#### Damage to the power supply unit due to moisture penetration

The power supply unit is not splash-proof.

• Only use the power supply unit in a dry, indoor environment.

SMA America, LLC 3 Scope of Delivery

## 3 Scope of Delivery

Check the delivery for completeness and any visible external damage. Contact your specialty retailer if the delivery is incomplete or you find any damage.



Figure 2: Components included in the scope of delivery

Position	Quantity	Description	
Α	1	Meteo Station	
В	1	Pre-harnessed connection cable	
С	1	Module temperature sensor with cleaning cloth	
D	1	CD with installation manual, quick reference guide for commissioning, Technical Information "RS485 Cabling Plan"	
Е	1	Power supply unit Phoenix Contact	
F	3	Conductive adhesive foil	
	2	Shield connection terminal	

4 Product Description SMA America, LLC

### 4 Product Description

#### 4.1 Meteo Station

The Meteo Station is a device for measuring power-related meteorological data at the PV plant location and for transmitting this data to the Sunny WebBox via the Power Injector. The Meteo Station fulfills the following tasks:

- Measurement of global radiation
- Measurement of PV cell temperature
- Measurement of absolute air pressure
- · Measurement of air temperature and humidity
- Transmission of this meteorological data to the Sunny WebBox

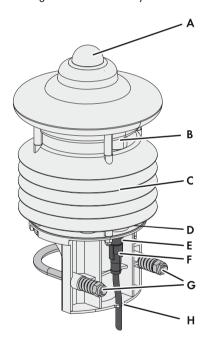


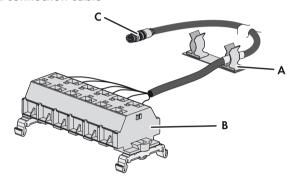
Figure 3: Design of the Meteo Station

Position	Description
Α	Pyranometer
В	Air pressure sensor in the device
С	Sensors for measuring air temperature and humidity

SMA America, LLC 4 Product Description

Position	Description
D	Fan
Е	Device plug
F	Connection cable with female connector
G	Retaining bracket with springs and self-locking nuts
Н	Notch to fix the connection cable

#### Pre-harnessed connection cable



Position Description	
Α	Shield connection terminal
В	Connecting terminal plate with rail adapter and terminator
С	Device plug

### Type Label

You can identify the Meteo Station by means of the type label. The type label is located on the underside of the Meteo Station where the nuts and springs are also attached. You can read out the following data from the type label:

- Serial number and hardware version
- Power consumption, operating voltage
- Permissible ambient temperatures during operation
- CE marking

The information on the type label is intended to help you use the SMA Meteo Station safely and will be needed when you contact the SMA Service Line. The type label must be permanently attached to the SMA Meteo Station.

4 Product Description SMA America, LLC

### 4.2 Power Supply Unit

The power supply unit is a grid-powered voltage converter made by Phoenix Contact.

The power supply unit fulfills the following tasks:

• Voltage supply to the Meteo Station

It is not permitted to use the power supply unit for any other purpose. Any other use can result in personal injury or property damage.

You will find precise information on the power supply unit in the attached installation instructions from Phoenix Contact.

Only install the power supply unit as described in the installation instructions.

SMA America, LLC 5 Mounting

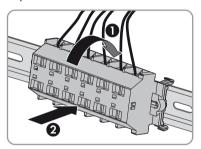
### 5 Mounting

# 5.1 Mounting the Connecting Terminal Plate and the Power Supply Unit

#### Requirements:

Ш	Adhere to the requirements in the attached installation instructions from Phoenix Contact.
	The mounting location must be indoors.
	A maximum cable route of 33 ft. (10 m) to the PV modules must be taken into account.
	A maximum RS485 communication bus length of 328 ft. (100 m) must be taken into account
	The power supply unit must be protected from dust, moisture and aggressive substances.

- Mount the power supply unit and connect it to the connecting terminal plate (see Installation Instructions for Power Supply Unit from Phoenix Contact).
- Mount the connecting terminal plate on the top-hat
  rail



### 5.2 Mounting the Meteo Station

#### Requirements:

The ambient temperature must be between -40°F to +140°F ( - 40°C to +60°C).
The diameter of the pole on which the Meteo Station is mounted must be between 2 $\frac{3}{8}$ in. and 3 in. (60 mm to 76 mm).
The pole must be stabilized by an appropriate wall or floor fixture.
The mounting location must be shadow-free and with an unimpeded panoramic view at the height of the pyranometer.
Remember that the maximum cable length to the connecting terminal plate is 33 ft. (10 m).
The Meteo Station must be protected from aggressive or toxic substances.

5 Mounting SMA America, LLC

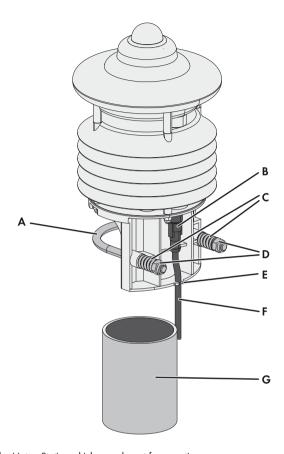


Figure 4: Parts of the Meteo Station which are relevant for mounting

Position	Description
Α	Retaining bracket
В	Device plug
С	Spring
D	Nut and washer
Е	Notch to fix the connection cable
F	Connection cable with female connector and screw ring
G	Pole

SMA America, LLC 5 Mounting

#### Additional tools required (not included in the scope of delivery):

- ☐ Metric wrench AF13
- Connection cable from the connecting terminal plate to the mounting location of the Meteo Station.
- 2. Remove the yellow cap from the device plug.
- Press the connection cable into the notch to hold it in place on the Meteo Station and move the female connector towards the device plug.
- 4. **i** Connect the cable, taking the position markings into account.

There is a keyway on the cable socket and a key on the device plug.

- When plugging the female connector, make sure that the keyway on the cable socket and the key on the device plug are properly aligned.
- 5. Fasten the screw ring of the female connector. This holds the connection cable in place.
- 6. Unfasten both nuts on the retaining bracket of the Meteo Station.
- 7. Push the Meteo Station over the top end of the pole.
- 8. **NOTICE**

# You may damage the Meteo Station by fastening the nuts on the retaining bracket too tight.

- Tighten both nuts until the springs on the retaining bracket begin to compress.
- Then fasten each nut with three turns.

### 5.3 Mounting the Module Temperature Sensor

#### Requirements:

- ☐ The module temperature sensor must be installed on a PV module that is not shaded at any time.
- ☐ A maximum cable route of 33 ft. (10 m) to the connecting terminal plate must be taken into account.

### **A** CAUTION

#### Risk of burn injuries if you touch the PV modules

In strong, direct solar irradiation, PV modules can heat up to temperatures as high as

- +176 °F (+80 °C).
  - Mount the module temperature sensor at a time at which no direct sunlight is shining on the PV modules.

5 Mounting SMA America, LLC

### 1. Cleaning the adhesive surface

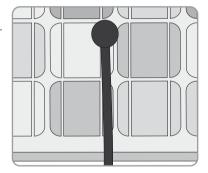
The surface must be free of dirt and moisture, otherwise the module temperature sensor is likely to fall off after sticking.

- Use the cleaning cloth to wipe the surface of the PV module at the spot where the sensor is to be affixed. The spot must be located on the underside of the PV module.
- Remove the masking paper from the pre-mounted double-sided adhesive tape on the module temperature sensor.
- 3. **NOTICE**

#### Damage to the PV module if you press the sensor on too hard

It is possible to damage the PV module by pressing the module temperature sensor on too hard.

- Observe the notes on mechanical strength in the PV module manual.
- Stick the module temperature sensor to the clean adhesive surface on the PV module, pressing it on as firmly as the mechanical strength allows.
- Lay the module temperature sensor cable to the mounting location of the connecting terminal plate.



 Connect one insulated conductor of the module temperature sensor to Pin 5 and the other to Pin 6 of the connecting terminal plate. This can be done in any order. SMA America, LLC 6 Commissioning

### 6 Commissioning

### 6.1 Terminal Assignment of the Pre-harnessed Connection Cable

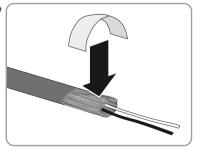
Pin no.	Color	Signal designation
1	white	Ground supply voltage (GND)
2	brown	Positive supply voltage (+12 V)
3	green	RS485 (D + )
4	yellow	RS485 (D - )
5	gray	Module temperature sensor
6	pink	Module temperature sensor

Insulated conductors 1 to 4 are already connected to the connecting terminal plate upon delivery. The terminating resistor is connected between insulated conductors 3 and 4. Pins 5 and 6 must be connected to the two insulated conductors of the module temperature sensor, in any order.

### 6.2 Connecting the Meteo Station to the RS485 Communication Bus

#### Requirement:

- ☐ The RS485 cable must be connected to the RS485 bus node (see manual of the RS485 bus node).
- □ Note the pre-harnessed termination of the Meteo Station by means of the terminator (for details of the layout of the RS485-communication bus, see the technical description "RS485 Cabling Plan").
- 1. Strip 8 in. (200 mm) of the cable sheath off the RS485 cable.
- 2. Shorten the cable shield to  $\frac{1}{2}$  in. (15 mm).
- 3. Trim the unneeded insulated conductors back as far as the cable sheath (for terminal assignment and wiring, see the technical description "RS485 Cabling Plan").
- Pull back the cable shield and cover with conductive adhesive foil.



Connect the RS485 cable to the shield connection terminal of the connection cable, making sure that the conductive adhesive foil has electrical contact to the shield connection terminal. 6 Commissioning SMA America, LLC

6. Strip the insulation of both conductors of the RS485 cable by  ${}^1\!/_{\!\!4}$  in. (6 mm) and connect these to **Pin 3** and **Pin 4** of the connecting terminal plate. Observe the correct polarity: "Data +" to **Pin 3** and "Data – " to **Pin 4** (see 6.1 "Terminal Assignment of the Pre-harnessed Connection Cable", page 21 and the technical description "RS485 Cabling Plan")

### 6.3 Connecting the Power Supply Unit to the Power Supply

#### Requirements:

ш	The module temperature sensor must be connected (see Section 3.3 Mounting the Module
	Temperature Sensor", page 19).
	The power supply unit must be connected to the connecting terminal plate (see Section 5.3 "Mounting the Module Temperature Sensor", page 19).
	The SMA Meteo Station must be connected to the connecting terminal plate (see Section 6.2 "Connecting the Meteo Station to the RS485 Communication Bus", page 21).

 Install the power supply unit as described in the Installation Instructions for Power Supply Unit from Phoenix Contact. SMA America, LLC 7 Troubleshooting

## 7 Troubleshooting

### 7.1 Errors in the SMA Meteo Station

Problem	Cause and corrective measures
The Meteo Station is not	The RS485 communication bus is not terminated.
detected.	Corrective measures:
	<ul> <li>Terminate the RS485 communication bus at the connecting terminal plate (for information on termination, see the technical description "RS485 Cabling Plan").</li> </ul>
The Meteo Station cannot be	The RS485 communication bus is not terminated.
queried or does not respond to	Corrective measures:
queries.	<ul> <li>Terminate the RS485 communication bus at the connecting terminal plate (for information on termination, see the technical description "RS485 Cabling Plan").</li> </ul>
	Supply voltage is interrupted.
	Corrective measures:
	Ensure that the Meteo Station is supplied with voltage.
	Cable shields are not properly positioned.
	Corrective measures:
	<ul> <li>Ensure that the cable shields are properly positioned and connected to the shield connection terminal.</li> </ul>
The Meteo Station reports error	The sensor for measuring ambient temperature is faulty.
value 1 "ErrSensAmbTemp" or	Corrective measures:
error value 6 "WrnSensAmbTemp".	<ul> <li>Contact the SMA Service Line (see Section 11 "Contact", page 32).</li> </ul>
The Meteo Station reports error value 2 "ErrSensModTemp" or	The module temperature sensor has no contact with the PV module.
error value 7	Corrective measures:
"WrnSensModTemp", or unrealistic values are displayed for the module temperature	<ul> <li>Ensure that there is contact between the module temperature sensor and the PV module.</li> </ul>
sensor.	The module temperature sensor is defective.
	Corrective measures:
	<ul> <li>Contact the SMA Service Line (see Section 11 "Contact", page 32).</li> </ul>

7 Troubleshooting SMA America, LLC

Problem	Cause and corrective measures
The Meteo Station reports error	The glass dome of the pyranometer is damaged or soiled.
value 3 "ErrSensSollrr" or error	Corrective measures:
value 8 "WrnSensSollrr", or unrealistic values are displayed for the pyranometer.	<ul> <li>Clean the glass dome of the pyranometer.</li> </ul>
	<ul> <li>Contact the SMA Service Line (see Section 11 "Contact", page 32).</li> </ul>
The Meteo Station reports error	The calibration data of the pyranometer is not valid.
value 4 "ErrCalibData" or error value 10 "WrnMtSensSollrr".	Corrective measures:
	<ul> <li>Register the Meteo Station at SMA for calibration</li> </ul>
	(see Section 11 "Contact", page 32).
The Meteo Station resports an	This can have various causes.
error value not listed here.	Corrective measures:
	Contact the SMA Service Line
	(see Section 11 "Contact", page 32).

### 7.2 Errors in the Power Supply Unit

Problem	Cause and corrective measures
	The power supply unit has no power.
the power supply unit is	Corrective measures:
not lit.	Check whether line voltage is available.

SMA America, LLC 8 Decommissioning

### 8 Decommissioning

### 8.1 Disassembling the Meteo Station

#### Additional tools required (not included in the scope of delivery):

- ☐ Metric wrench AF13
- Remove the power supply unit from the power supply (see Installation Instructions for Power Supply Unit from Phoenix Contact).
- 2. Unfasten both nuts on the retaining bracket of the Meteo Station.
- 3. Slide the SMA Meteo Station upwards and off the end of the pole.
- 4. Unscrew the screw ring and pull the connection cable out of the Meteo Station.

### 8.2 Disassembling the Module Temperature Sensor

- Disconnect the two conductors of the module temperature sensor from the connecting terminal plate.
- 2. NOTICE

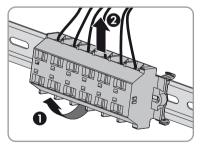
#### Damage to the PV module by removing the module temperature sensor

Do not remove attached sensors from PV modules, as otherwise the modules may be damaged. The module temperature sensor cannot be re-used.

Cut the sensor cable off flush with the module temperature sensor.

# 8.3 Disassembling the Connecting Terminal Plate and Power Supply Unit

- Lever the connecting terminal plate from the bottom of the top-hat rail forward and out. To do this, apply downward pressure.
- 2. After releasing the bottom of the connecting terminal plate, pull it upwards off the top-hat rail.



Remove the power supply unit from the top-hat rail (see Installation Instructions for Power Supply Unit from Phoenix Contact). 8 Decommissioning SMA America, LLC

### 8.4 Packing the Meteo Station for Shipping

 Pack the device. For this purpose, use the original packaging or packaging suitable for the weight and size of the device (see Section 10 "Technical Data", page 29).

### 8.5 Disposing of the Meteo Station

 Dispose of the device according to the disposal regulations for electronic waste that apply at the installation site.

or

 Send the device to SMA at your own expense (for contact details, see Section 11 "Contact", page 32) Label the packaging "ZUR ENTSORGUNG" ("FOR DISPOSAL"). SMA America, LLC 9 Parameters

#### 9 Parameters

### 9.1 Display Values

The parameters are divided into display values and adjustable parameters. Display values are read only, adjustable parameters can also be changed.

#### **Meteo Station**

Name	Description
SN	Serial number of the SMA Meteo Station
FwVer	Firmware version of the SMA Meteo Station
HWVer	Hardware version of the SMA Meteo Station
ОрТт	Operating time of the SMA Meteo Station since commissioning in hours
Mode	Display of operating states: 0 - normal operation, 1 - initialization, 2 - warning, 3 - error

#### Internal Global Radiation Sensor

Name	Description
IntSolIrr	Global radiation in W/m <sup>2</sup>

### **Module Temperature Sensor**

Name	Description
TmpMdul C	Cell temperature in °C
TmpMdul K	Cell temperature in K
TmpMdul F	Cell temperature in °F

### **Ambient Temperature**

Name	Description
TmpAmb C	Ambient temperature in °C
TmpAmb K	Ambient temperature in K
TmpAmb F	Ambient temperature in °F

9 Parameters SMA America, LLC

### Air Pressure and Humidity

Name	Description
envhmdt	Relative humidity in %
envpress	Air pressure in hPa

## 9.2 Adjustable Parameters

The parameters are divided into display values and adjustable parameters. Display values are read only, adjustable parameters can also be changed.

Name	Description	Value/Range	Explanation	Default value
DevNam	Device Name	Text	Allocation of a random designation with max. 32 characters	-
SMANetBd	Bus speed	1,200 Baud	SMA-typical baud rate	1,200 baud
DevRs	Reset of the SMA Meteo Station	A random numerical value can be set to trigger a reset of the weather station.	A reset is performed.	-

SMA America, LLC 10 Technical Data

### 10 Technical Data

### 10.1 Meteo Station

#### **General Data**

Certified countries	USA/Canada
Recommended installation location	Outdoors

### Mechanical Data

Diameter x height	6 in. x $10^{1}/_{2}$ in. (150 mm x 268 mm)
Weight with bracket, without connection cable	3 lbs. (1.3 kg)
Mounting type	Pole fixtures: $\varnothing$ 2 $\frac{3}{8}$ in. to 3 in. (60 mm to 76 mm)

### **Voltage Supply**

Voltage supply	Power supply unit
Supply voltage	24 V DC ± 20%
Typical current input	135 mA
Maximum current consumption	500 mA
Typical power consumption	< 2 W

#### **Ambient Conditions**

Degree of protection	NEMA 3
Ambient temperature	- 40°F to 140°F ( - 40°C to +60°C)
Relative humidity	5% to 95 %
Max. permissible height above MSL	9,840 ft. (3,000 m)

#### Communication

Communication	RS485
Commonedation	110-100

10 Technical Data SMA America, LLC

### **Air Temperature Measurement**

Measuring procedure	NTC
Measuring range	- 58°F to 140°F ( - 50°C to +60°C)
Resolution	0.18°F at – 4°F to +122°F, otherwise 0.36°F (0.1°C at – 20°C to +50°C, otherwise 0.2°C)
Accuracy of sensor	± 0.36°F at - 4°F to 122°F, otherwise 0.9°F (± 0.2°C at - 20°C to +50°C, otherwise 0.5°C)
Measuring interval	1 minute
Units	°C, °F

### Measurement of Humidity

Measuring procedure	Capacitive
Measuring range	0 to 100% relative humidity
Resolution	0.1% relative humidity
Accuracy	±2% relative humidity
Measuring interval	1 minute
Units	% relative humidity

### **Measurement of Air Pressure**

Measuring procedure	MEMS sensor, capacitive
Measuring range	4.35 Psi to 17.4 Psi (300 hPa to 1,200 hPa)
Resolution	0.001 Psi (0.1 hPa)
Accuracy	±0.02 Psi (±1.5 hPa)
Measuring interval	1 minute

### Pyranometer Sensor Kipp & Zonen CMP 3

Measuring procedure	Thermopile pyranometer
Measuring range	0.0 W/m <sup>2</sup> to 1,400.0 W/m <sup>2</sup>
Resolution	<1 W/m <sup>2</sup>
Measuring interval	1 minute
Certification according to ISO9060	second class

SMA America, LLC 10 Technical Data

### **Module Temperature Sensor**

Measuring procedure	NTC
Cable length	33 ft. (10 m)
Measuring range	- 4°F to 176°F ( - 20°C to +80°C)
Measurement accuracy	<±1.8°F (<±1.0°C)
Measuring interval	1 minute

11 Contact SMA America, LLC

#### 11 Contact

If you have technical problems concerning our products, contact the SMA Service Line. We need the following data in order to provide you with the necessary assistance:

- Serial number and firmware version of the SMA Meteo Station
- Serial number and firmware version of the Sunny WebBox

#### SMA Solar Technology America, LLC

6020 West Oaks Blvd. Ste 300

Rocklin, CA 95765

Tel. +1 916 625 0870

Tel. +1 877-MY SMA TECH

Tel. +1 877 697 6283 (Toll free, available for USA, Canada and Puerto Rico)

Fax +1 916 625 0871

Service@SMA-America.com

www.SMA-America.com

#### SMA Solar Technology Canada Inc.

2425 Matheson Blvd. E, 8th Floor

Mississauga, ON L4W 5K5

Canada

Tel. +1 877 506 1756 (Toll free, available for Canada)

Service@SMA-Canada.ca

www.SMA-Canada.ca

#### SMA Technology Australia Pty. Ltd.

Suite 106, 30-40 Harcourt Parade

Rosebery, NSW 2018

Tel. +61 2 9669 2889

Fax +61 2 9669 2887

Service@SMA-Australia.com.au

www.SMA-Australia.com.au

# SMA Solar Technology

# www.SMA-Solar.com

SMA America, LLC www.SMA-America.com

